

Applying the Properties of Operations at Different Grade Levels

Grade Level	Problem	Thinking	Property
1-2	$8 + 5$	<p>"8 plus 2 is 10 10 and 3 more is 13"</p> $8 + (2 + 3) = (8 + 2) + 3$	Associative Property of Addition
3	8×6	<p>"4 x 6 is 24 double that to get 48"</p> $(2 \times 4) \times 6 = 2 \times (4 \times 6)$	Associative Property of Multiplication
4-5	$4 \times \frac{2}{3}$	<p>"8 one-thirds is $\frac{8}{3}$ or $2\frac{2}{3}$"</p> $4 \times (2 \times \frac{1}{3}) = (4 \times 2) \times \frac{1}{3}$	Associative Property of Multiplication
6-8	Write an equivalent expression $3(4x)$	$3(4x) = (3 \cdot 4)x$ which is $12x$	Associative Property of Multiplication
3	20×13	<p>"20 tens is 200 and 20 threes is 60 that's 260"</p> $20 \times (10 + 3) = (20 \times 10) + (20 \times 3)$	Distributive Property of Multiplication over Addition
4-5	$3 \times 4\frac{1}{3}$	<p>"3 x 4 is 12 and 1 more is 13"</p> $3(4 + \frac{1}{3}) = (3 \times 4) + (3 \times \frac{1}{3})$	Distributive Property of Multiplication over Addition
6-7	Write an equivalent expression $24x + 18y$	$24x + 18y = 6(4x + 3y)$	Distributive Property of Multiplication over Addition